WHAT IS CLAIMED IS:

1. A sleeve arranged between an optical fiber and a transmitting or receiving module for optically connecting the optical fiber and the transmitting or receiving module, said sleeve comprising:

a light-leading path being in a flat-headed conic shape having a small-diameter end face facing the transmitting or receiving module;

a peripheral projecting portion projecting in a radial direction from another end portion, being on a side of the optical fiber, of the light-leading path; and

an outer tube portion extending in an optical axis direction of the light-leading path from a peripheral portion of the peripheral projecting portion toward the small-diameter end face while covering an entire length of the light-leading path.

2. The sleeve as set forth in claim 1, wherein

the peripheral projecting portion is circularly formed coaxially with the light-leading path, and

the outer tube portion is cylindrically formed coaxially with the light-leading path.

3. The sleeve as set forth in claim 2, wherein

an outside diameter of the outer tube portion is equally formed over an entire length of the light-leading path.

4. The sleeve as set forth in claim 1, wherein

the outer tube portion has a flange projecting circularly in a radial direction from a peripheral surface thereof.

5. The sleeve as set forth in claim 1, wherein

a lens is formed integrally with said another end portion of the light-leading path convexly toward the optical fiber.

6. The sleeve as set forth in claim 5, wherein

the lens does not project over an optical fiber side end of the outer tube portion.

7. The sleeve as set forth in claim 1, wherein

an end face of said another end portion of the light-leading path is a light-receiving surface to receive light transmitted by the optical fiber, and

a diameter of the light-receiving surface is larger than a diameter of a light-emitting surface being an end face of the optical fiber.

8. The sleeve as set forth in claim 1, wherein

the small-diameter end face of the light-leading path is a light-emitting surface to emit light transmitted to the receiving module, and

a diameter of the light-emitting surface is smaller than a diameter of a light-receiving surface of the receiving module.

9. The sleeve as set forth in any one of claims 1-6, wherein

the small-diameter end face of the light-leading path is a light-receiving surface to receive light transmitted from the transmitting module, and

a diameter of the light-receiving surface is larger than a diameter of a light-

emitting surface of the transmitting module.

10. A method of manufacturing a sleeve arranged between an optical fiber and a transmitting or receiving module for optically connecting the optical fiber and the transmitting or receiving module, said sleeve comprising:

a light-leading path being in a flat-headed conic shape having a small-diameter end face facing the transmitting or receiving module;

a peripheral projecting portion projecting circularly in a radial direction from another end portion, being on a side of the optical fiber, of the light-leading path; and

an outer tube portion extending in an optical axis direction of the light-leading path from a peripheral portion of the peripheral projecting portion toward the small-diameter end face while covering an entire length of the light-leading path,

comprising the step of:

setting

a first metal mold having a first molding portion being along an external shape of said another end portion of the light-leading path of the sleeve and along an external shape of the outer tube portion and

a second metal mold having a second molding portion made of hard material and being along an inner surface of the outer tube portion and along a peripheral surface of the light-leading path.